



Updated SSC / HOP Productivity and Guidelines

Part I: Improving SSC communication effectiveness

Part II: Improving HOP program productivity

Sabrina Savage



Part I



Improving SSC communication effectiveness



Objectives



- 1. Determine a more consistent and effective method to communicate the SSC monthly recommendations to the COs.
 - a. Response to flare targets.
 - b. Focused Mode priorities.
- 1. Determine appropriate targets for Quiet Sun campaigns.
 - Base on historical HOP effectiveness.



1. Effective communication from SSC



a. Responding to Flare Targets

- Revisit guidelines for implementation by Chief
 Observers (COs) and Chief Planners (CPs).
 - This was handled by the SWG in 2011.
 - Guidelines not effectively followed recently due to new COs, more active conditions, etc.





CO HOP override discretion:

- •http://www.isas.jaxa.jp/home/solar/guidance/node12.html
- •"The Hinode SWG has reviewed the processes and procedures for flare observations based on the issuance of a Max Millennium Flare Watch (MMFW) as well as the productivity of Hinode Observation Programs (HOPs). The SWG has made two decisions regarding these observing programs."
- •"First, regions with the potential to create flare will be given the highest observing priority. The target for the observations may utilize the MMFW target designation or Hinode will begin instituting a "Hinode Flare Watch" that may be called by the Chief Planner, Toshi Shimizu, Taro Sakao, or a designate of the Science Schedule Committee. The target for the Hinode Flare watch will be selected at that time, and the instruments will follow that target using approved flare watch programs. Any HOPs not completed as the result of a flare watch will be rescheduled, if possible, and the contact for the HOP will be notified of the change in plan as soon as possible after the issuance of the Hinode Flare watch. Synoptic observations (including synoptic HOPs) should be completed as scheduled or as soon as possible after the end of the flare watch. The SWG will assess success of this new policy at the August 2012 SWG meeting."





CO HOP override discretion:

- •http://www.isas.jaxa.jp/home/solar/guidance/node11.html
- •"The Chief Planner and Chief Observers may also suspend normal HOP support if a sufficiently interesting target of opportunity (TOO) for an identified TOO HOP appears. Such targets might be a flaring active region that does not quite meet the standards for a major flare alert, a newly emerging active region, a large filament or prominence, etc. Factors to be considered in making this decision in the daily meeting include: uniqueness and priority of the normally scheduled observations, frequency of occurrence of similar TOOs, weather and seeing conditions at ground based observatories, availability of telemetry, length of time the TOO HOP has been waiting to be run, etc. When this decision is made, the COs should explain the reasons for the changes in their daily plan announcements and should refer questions about the plan to the SSCs and Pis."





CO HOP override discretion:

Precedent for previous usage

daily note

- * First pass is early today (15:59 JST) *
- * Region near E limb just produced an M flare. Hinode Flare Watch called based on this, as it is impossible to see magnetic complexity level of the region at this time. Various HOPs postponed. *





Implementation Suggestions

1.[Action: SSC] Create a Flare Watchdog ToO HOP that is the "Go-to" program for all instruments when active region monitoring is not currently planned.

- Perhaps determine what this would look like in 4-1.
 - How best to implement flare trigger across instruments?

2.[Action: SSC] SSC designate a [rotating?] "Flare Watchdog" to monitor solar conditions and HOP coordination to determine if any HOPs need to be postponed for active region monitoring.

- If planned HOPs are already monitoring the active region, no need to postpone.
- Otherwise, after consulting with Instrument PIs, either provide new pointing for a scheduled AR HOP or call for Flare Watch HOP to be run.
 - Directly contact COs.





 Contact information (email/phone) for all COs must be easily and quickly retrievable.

 The Flare Watchdog HOP must be well advertised, especially in the event of an update.

 While COs and CP still have the option to override HOPs themselves, this adds extra support and confirmation.



1. Effective communication from SSC



b. Communicating Focused Mode Priorities

- SSC has created a list of these priorities based on solar conditions; however, Operators felt they were not effectively communicated.
- From May SSC Notes:
 - 1. Active Region
 - 2. Coronal Hole
 - 3. Filament/Prominence
 - 4. [Action: SSC] Need to include QS priorties



Target Prioritization



Suggested Solution

1.[Action: Instrument PIs/PSs] Distribute the list with the weekly transition notes as a separate notice (so that it gets extra attention).

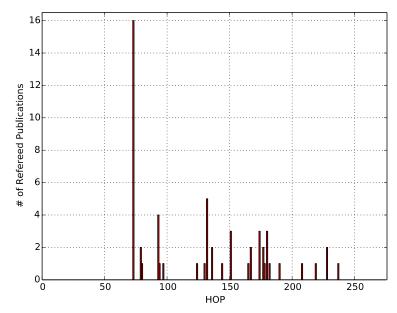
2.[Action: SSC] SSC designate a [rotating?] "Focused Mode Lead" to monitor solar conditions, attend the weekly meeting, and provide guidance based on SSC recommendations.



2. Quiet Sun Campaigns



- Foreshadowing Part II (HOP Program Assessment)
 - Some of the most productive QS campaigns are HOPs 73, 130, and 151.



- Long-term synoptic scans and monitoring
- FM allows effective long baseline campaigns that were previously difficult to implement.

This HOP has been very successful, except for the fact that we were unable to complete the planned 40 hours of continuous monitoring of the quiet Sun. HOP 151 gathered a unique dataset in terms of sensitivity, duration and cadence. It remains unique, since no similar observations have been performed so far.



Focused Mode Prioritization



Suggested Priority List:

- 1. Active Region
 - Long-term programs such as flux emergence, waves in sunspots, flare monitoring, etc.]
- 2. Coronal Hole
- 3. Prominence/Filament
- 4. Disk-center, long baseline synoptics/scans
- 5. Polar magnetic network



Part II



Improving the HOP program productivity



Objectives



- 1. Assess the productivity of the HOP program.
 - Determine the best type of HOPs for Focused Mode Ops.
- 2. Revisit guidelines for HOP approval by the Science Steering Committee (SSC).
 - Provide information to assess value of proposed HOPs and productivity of frequent proposers.
- 3. Review scheduling procedures.

4. Present science highlights.



HOP Productivity Assessment: Procedure



Information Gathering

- Initial inquiries for HOP productivity sent out in May.
 - [HOPs 72 242]
 - Feedback retrieved and sorted.
 - Will implement a more automated process to request updated information in the future on a biannual basis.
- Received info on ~50 HOPs (~30%)



HOP Productivity Assessment: Procedure



HOP info

BER OF	NUMBER OF INQUIRIES RECEIVED	HOP NUMBER	HOP TITLE	тоо	CORE	NUMBER OF RUNS	DATES	PRIMARY PROPOSER	CO-PROPOSERS	SCC CONTACT	PRIMARY PROPOSER
						AS OF 3/6/14					
		1	APL Solar Bolometric Imager (BSI)	NO	NO	1	2007	Bernasconi		Berger	berger [at] Imsal.com
		2	CORE: Polar Region Observation Campaign	NO	YES	2	Jan-07; Sep-07	Cirtain	XRT Team	Cirtain	jonathan.w.cirtain (a
1		3	EIS-SUMER Campaign	NO	NO	1	Apr-07	W. Curdt		Culhane	curdt (at) linmpi.mpg
		4	Coordinated Campaign Observation with THEMIS - a. Filament/prominence study; b. Evolving 3D Magnetic Field in Active Regions	NO	NO	1	Apr-07	Schmieder; Aulanier		Golub	brigitte.schmieder [a
		5	Irradiance Measurement Campaign	NO	NO	1	Feb-07	Berger			berger [at] Imsal.com
		6	CORE: Coalignment Campaign	NO	YES	6	Nov-08; Feb-07; Mar-07; May-07	Shimizu	Katsukawa; Ichimoto; Hara	Shimizu	shimuzu [at] solar.isa
		7	CDS/UVCS + Ulysses Campaign	NO	NO	2	May-07	Del Zanna		Culhane	g.del-zanna [at] dam
		8	Stereoscopic Observation of the Coronal Structures	NO	NO	1	May-07	Plunkett		Mariska	simon.plunkett [at] n
		9	Observations of Filament Threads and their Footpoints	NO	NO	1	Apr-07	Engvold		Berger	oengvold [at] astro.u
			CORE: Joint Observation of the Solar Corona between Hinode EIS and NAOJ								

Proposer info

PROPOSER	FIRST NAME	[co]	EMAIL	ALTERNATIVE EMAIL	INVALID EMAIL
Abramenko		[90]; 198; [208]	avi [at] bbso.njit.edu		
Aime		[143]; [239]			
Anjali		[206]; [240]			
Antolin	Patrick	234; 248; 262	patrick.antolin [at] nao.ac.jp		patrick.antolin [at] wis.kuleuven.be
Anzer		[186]			
Arnaud		[143]			
Asai		[189]			
Asensio Ramos		[213]			
Attie		[86]			
Attrill		123	gattrill [at] cfa.harvard.edu		
Aulanier		[111]			
Bai		[259]			
Baker	Deborah	[84]; 253	deborah.baker [at] ucl.ac.uk		db2 [at] mssl.ucl.ac.uk
Balmaceda		[185]	Ibalmaceda [at] icate-conicet.gob.ar		
Balthasar		190	hbalthasar [at] aip.de		
Bando		[122]	Francisco de material de la composição d		



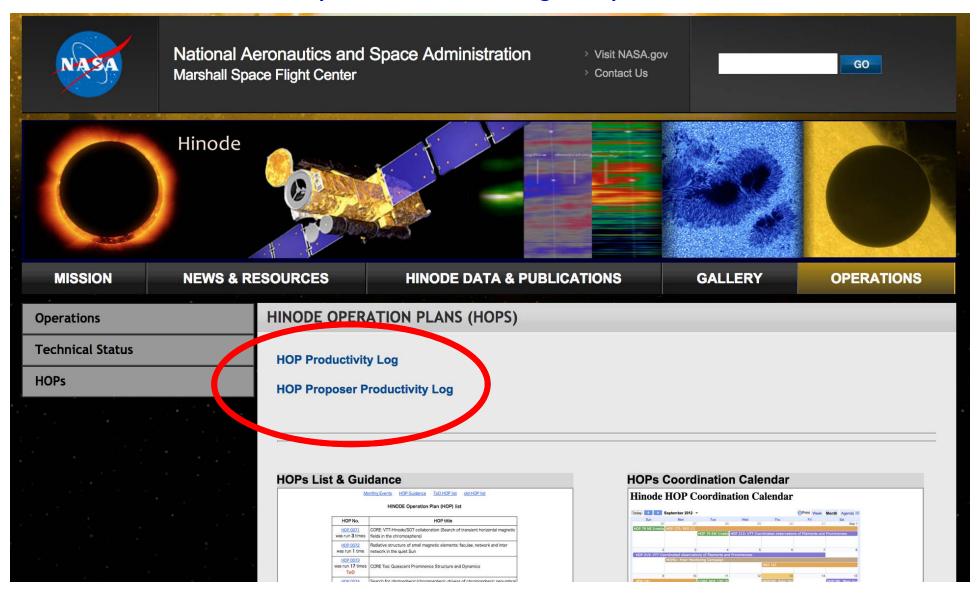
HOP output

IOP Number	Target	Quality	Instruments Used	Productivity (HTML)	Number of Refereed Publications	Refereed Year(x)	refereed Publications	refereed Year(s)	Number of EPO Activities	EPO Year(s)	of other outputs	Other Year(s)	Reason for Lack of Productivity	Additional Comments
173	Active Region: Prominence, Tare	Good	50T/RFI, KRT, [Ground-based]: School Observatories - white IgNr, H-slphs, Cal							2014; 2014; 2013; 2013; 2013; 2013; 2012; 2022; 2012; 2011; 2011; 2011; 2011; 2011;				An article about HOP173 observations was published in the Jasenese astronomical summer programment of the published in the Jasenese astronomical summer joint observation is about the controduced in the magazine cate / r-left / Participating Public Vienues: che / r-left / Published single Schoolch / Published
174 175 176	Active Region; Emerging Flux; Ellerman Bombs	Good		REFERED PUBLICATION(s): cbr />cbr /> Long et al. 2013, Solar Phys., 288, 567.cbr /> Harra et al. 2013, ApJ, 787, L4.cbr /> Vernoilg et al. 2013, ApJ, 743, L10.cbr /> cbr />	,	2011; 2011; 2013								





http://hinode.msfc.nasa.gov/hops.html







Questions / Comments: sabrina.savage [at] nasa.gov

HOP INSTRUCTION PAGE

HOP Productivity Log

Log reliant on proposer-provided information and is therefore not complete. Please contact sabrina.savage [at] nasa.gov to have any information updated.

```
115 Total Productivity Outputs
Histogram Per Year
Histogram Per HOP

57 Refereed Publications
Histogram Per Year
Histogram Per HOP

6 Non-refereed Publications
Histogram Per Year
Histogram Per HOP

36 EPO Activities
Histogram Per Year
Histogram Per HOP

16 Other Outputs
Histogram Per Year
Histogram Per HOP
```

HOP ####: [# Refereed Publications; # Non-refereed Publications; # EPO activities; # Other outputs] -- Total

** -- Reason for lack of productivity noted (e.g., insufficient observations, PI relocation, etc.)

```
HOP 0072: [0; 0; 0; 0] -- 0

HOP 0073: [16; 0; 1; 2] -- 19

HOP 0074: [0; 0; 0; 0] -- 0

HOP 0075: [0; 0; 0; 0] -- 0

HOP 0076: [0; 0; 0; 0] -- 0

HOP 0077: [0; 0; 0; 0] -- 0
```





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HOP INSTRUCTION PAGE

HOP 73, TOO, CORE

CORE Too: Quiescent Prominence Structure and Dynamics

Number of runs (AS OF 3/6/14): 17

Dates: Sep-08; Oct-08; Apr-09; May-09; Apr-10; Jun-10

Primary Proposer(s):

Berger -- tberger [at] nso.edu

Co-proposer(s):

Y. Lin -- yong.lin [at] astro.uio.no

HOP Productivity:

REFEREED PUBLICATION(s):

Dudik et al. 2013

Hillier, A. et al. 2012, ApJ, 746, 120.

Hillier, A. et al. 2012, ApJ, 756, 110.

Hillier, A. et al. 2012, ApJ, 761, 106.

Berger, T. 2012, "The Prominence/Coronal Cavity System", PASP, 463, 147.

Berger, T. 2012, "Solar Promience fine structure and dynamics", IAUS 300 Proceedings, 15.

Berlicki et al. 2012.

Labrosse et al. 2012.

Parenti et al. 2012.

Lillian A at al 2011 ApJ 726 I 1





HOP list Monthly Events

HINODE Operation Plan (HOP)

accepted on

24-Jul-08

HOP No. **HOP title**

CORE Too: Quiescent Prominence Structure and Dynamics HOP 0073

2008/09/06-2008/09/19 2008/09/29-2008/09/29 2008/10/02-2008/10/02 2009/04/16-2009/04/16

2009/04/18-2009/04/18

2009/04/21-2009/04/21 2009/04/23-2009/04/23

2009/04/24-2009/04/24 plan term 2009/04/25-2009/04/25

2009/04/26-2009/04/26 2009/04/28-2009/04/28

2009/05/07-2009/05/14 2009/10/22-2009/10/22 2010/04/30-2010/05/06

2010/06/22-2010/06/22 2010/06/25-2010/06/25

2010/06/29-2010/06/29

Berger et al. proposer name:

berger[at]lmsal.com

yong.lin[at]astro.uio.no

contact person

in HINODE name: Berger

team

e-mail: berger[at]lmsal.com

Questions / Comments: sabrina.savage [at] nasa.gov

HOP INSTRUCTION PAGE

HOP Proposer: Berger

tberger [at] nso.edu

As Primary Proposer:

HOP 5:

No HOP productivity information provided.

HOP 16:

No HOP productivity information provided.

HOP 46:

No HOP productivity information provided.

HOP 56:

No HOP productivity information provided

HOP 73:

Links to papers included when

REFEREED PUBLICATION provided.

Dudik et al. 2013

Hillier, A. et al. 2012, ApJ, 746, 120. Hillier, A. et al. 2012, ApJ, 756, 110.





** Indicates reason behind lack of productivity provided.

HOP 0091: [0; 0; 0; 0] 0 ** HOP 0092: [0; 0; 0; 0] 0 HOP 0093: [4; 0; 0; 0] 4	Proposer left the field (Grigis).
HOP 0094: [1; 0; 2; 0] 3 HOP 0095: [0; 0; 0; 0] 0 HOP 0096: [0; 0; 0; 0] 0 HOP 0097: [1; 0; 0; 0] 1 HOP 0098: [0; 0; 0; 0] 0	(Engineering Test) The one run of this HOP listed on the HOP pages did not
HOP 0099: [0; 0; 0; 0] 0 HOP 0100: [0; 0; 0; 0] 0 ** HOP 0101: [0; 0; 0; 0] 0 HOP 0102: [0; 0; 0; 0] 0	actually run the SOT programs requested in the HOP proposal, nor was the target appropriate. So no good data was collected.
HOP 0103: [0; 0; 0; 0] 0 HOP 0104: [0; 0; 0; 0] 0 HOP 0105: [0; 0; 0; 0] 0 HOP 0106: [0; 0; 0; 0] 0 HOP 0107: [0; 0; 0; 0] 0	
HOP 0108: [0; 0; 0; 0] 0 HOP 0109: [0; 0; 0; 0] 0 HOP 0110: [0; 0; 0; 0] 0 HOP 0111: [0; 0; 0; 0] 0 ** HOP 0112: [0; 0; 0; 0] 0	QS conditions made it difficult to obtain the targets. Still working on the data.
HOP 0113: [0; 0; 0; 0] 0 HOP 0114: [0; 0; 0; 4] 4 HOP 0115: [0; 0; 0; 0] 0 HOP 0116: [0; 0; 0; 0] 0 ** HOP 0117: [0; 0; 0; 0] 0	TESIS data was hard to reduce/obtain.
HOP 0118: [0; 0; 0; 0] 0 HOP 0119: [0; 0; 0; 0] 0 HOP 0120: [0; 0; 0; 0] 0 HOP 0121: [0; 0; 0; 0] 0 HOP 0122: [0; 0; 0; 0] 0 HOP 0123: [0; 0; 0; 0] 0 HOP 0124: [1; 0; 0; 0] 1 HOP 0125: [0; 0; 0; 0] 0	Although this HOP run was successful from the Hinode-side, the primary scientific objectives could not be met because: (a) Clouds at the ground-based site partially obscured the planned polarization studies of light from the corona, and (b) no well-defined coronal cavities were visible in the corona during the
HOP 0126: [0; 0; 0; 0] 0 HOP 0127: [0; 0; 0; 0] 0 **	time of the eclipse.





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HOP INSTRUCTION PAGE

HOP Productivity Log

Log reliant on proposer-provided information and is therefore not complete. Please contact sabrina.savage [at] nasa.gov to have any information updated.

115 Total Productivity Outputs

Histogram Per Year

Histogram Per HOP

57 Refereed Publications

Histogram Per Year

Histogram Per HOP

6 Non-refereed Publications

Histogram Per Year

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36 EPO Activities

Histogram Per Year

Histogram Per HOP

16 Other Outputs

Histogram Per Year

Histogram Per HOP

HOP ####: [# Refereed Publications; # Non-refereed Publications; # EPO activities; # Other outputs] -- Total

** -- Reason for lack of productivity noted (e.g., insufficient observations, PI relocation, etc.)

HOP 0072: [0; 0; 0; 0] -- 0 HOP 0073: [16; 0; 1; 2] -- 19 HOP 0074: [0; 0; 0; 0] -- 0 HOP 0075: [0; 0; 0; 0] -- 0 HOP 0076: [0; 0; 0; 0] -- 0 HOP 0077: [0; 0; 0; 0] -- 0 HOP 0078: [0; 0; 0; 0] -- 0





Caveats to keep in mind:

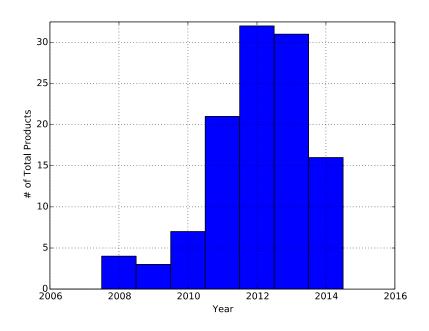
- About 1/3 responded.
 - Reliant on feedback from proposers (inherently incomplete).
- Only up through HOP 242.
 - Does not include all of the IHOPs!
 - Does not include recent eclipse (lot of news articles)!
 - Will be part of next call.

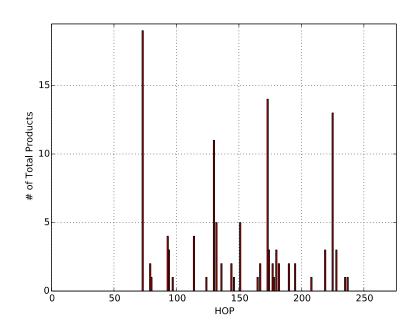




Total Outputs Per Year and Per HOP

- Refereed Publications, Non-refereed Publications, EPO, Other Outputs



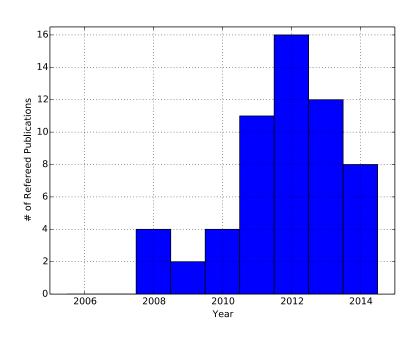


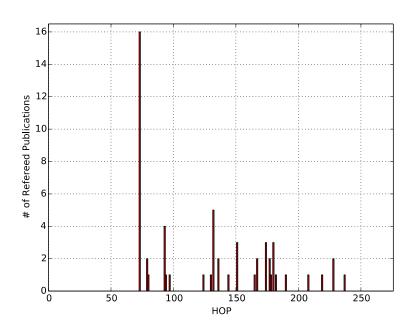




Total Refereed Publications Per Year and Per HOP

- Star Performers: HOP 73, HOP 130 – long term campaigns



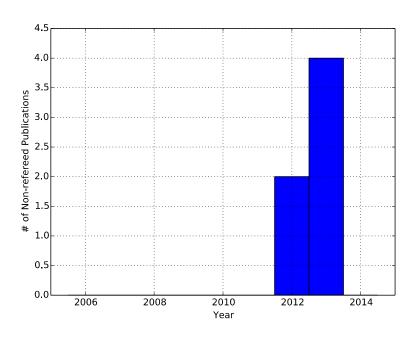


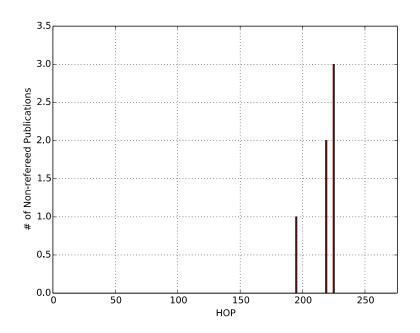




Total Non-refereed Publications Per Year and Per HOP

- e.g., magazine/news articles



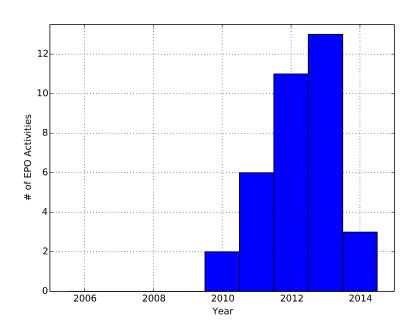


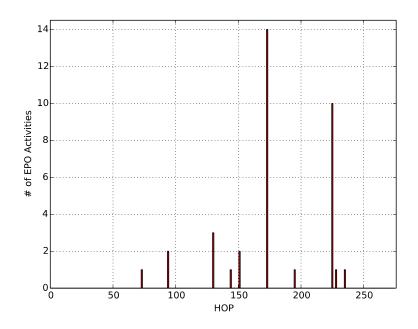




Total EPO Per Year and Per HOP

- Star Performers: HOP 173 and Venus transit HOPs
- (included conference presentations for these HOPs as EPO due to their focus)
- Also includes theses
 - -- note that through this process, it was discovered that 2 theses are missing from the Hinode Thesis list for 2013 (just added yesterday after request)



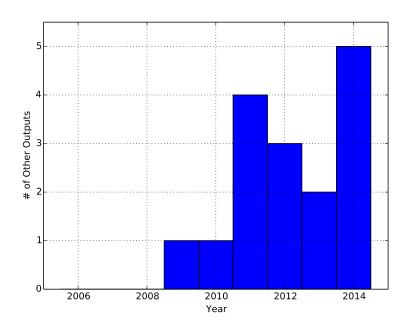


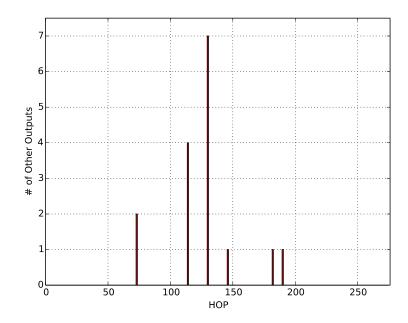




Total Other Outputs Per Year and Per HOP

- e.g., conference presentations, animations, data collection
- not everyone reported these, so not precise







HOP Productivity Assessment: Assessment



- What has worked well as a **HOP** (based on the feedback received)?
 - Synoptic, long-term campaigns
 - Flux Emergence
 - Coronal Hole Boundaries / Solar Wind Origins
 - Prominences
 - EPO events (transits, eclipses, HOP173)
- Flares are difficult to plan for (obviously), so do not result in high yield as HOPs.
 - Exceptions!... (e.g., March 29, 2014 have not received feedback on this flare.)
 - High risk/high reward
 - Typically result in active region monitoring which results in non-HOP research results.
- This information should feed into programs chosen during Focused Mode Operations.



HOP Productivity Assessment: Assessment



1. Assess the productivity of the HOP program.

- Determine the best type of HOPs for Focused Mode Ops.
- Recommendation based on current results:
 - Quiet Sun Conditions
 - Long-term synoptic programs / scans
 - Polar Coronal Hole magnetic field / solar wind origin monitoring
 - Active Sun Conditions
 - Active Region tracking
 - Flux emergence
 - High yield EPO activities, such as eclipses and transits, would warrant a pause in Focused Mode Ops due to complicated coordination efforts.



HOP Productivity Assessment: Assessment



2. Revisit guidelines for HOP approval by the Science Steering Committee (SSC).

- Provide information to assess value of proposed HOPs and productivity of frequent proposers.
- Check against Proposer and HOP productivity.
- Proposers must check their status page(s) and update as necessary or provide justification for lack of outputs.
- Action [Savage/Watanabe]: Add this step to the submission guidelines.



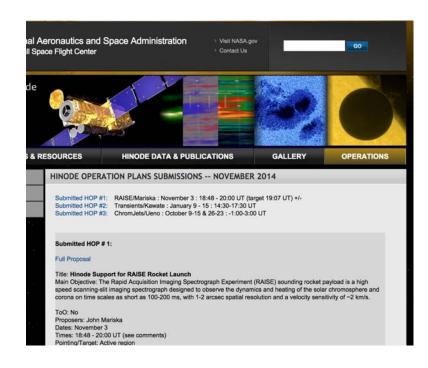
HOP Productivity Assessment: Scheduling



3. Review scheduling procedure.

- During IRIS/Hinode non-eclipse season, requests for time go way up.
 - This is generally a positive indication of Hinode's value to the community.
 - Makes scheduling more difficult.
 - Potential to miss more flares.
- Website developed to reduce confusion and make scheduling more effective and clear.

http://hinode.msfc.nasa.gov/submitted hops.html



 Assessing productivity per HOP and per Proposer may reduce the number of HOPs approved, or hopefully, will instead encourage increased HOP productivity reporting.

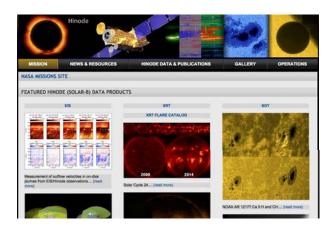


HOP Productivity Assessment: Science



4. Present science highlights

PODs/XPOWs/Nuggets to MSFC main, MSFC News, and NASA mission sites







- Instrument teams have been providing examples of coordinated observations for review by NASA management.
 - Compilation from the past year...